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Parameter study of tool-laminate interface through simulation for composite manufacturing using autoclave process (Conference Paper)

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Abstract

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Modeling the spring-back requires tool-laminate interaction to be taken into account. In this study, an interface based on orthotropic linear behavior coupled with an out-of-plane shear stress failure was proposed to simulate the tool-laminate interaction. The results from this particular model captured the out-of-plane shear stress distribution. The model allows predicting the warpage displacement in function of interface properties; shear modulus and shear stress failure which leads to the construction of Chart Design. Additionally, the influence of the number of plies was studied as well and the evolution of the maximum warpage agreed with the literature. © (2014) Trans Tech Publications, Switzerland.

Author keywords

CFRP Composite manufacturing Springback Tool-part interaction

Indexed keywords

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